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A NEW SPECIES OF HAPLOPAPPUS FROM SOUTHWESTERN TEXAS

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LAST August the author made a collecting trip[1] through that interesting desert and desert-transition area, the Transpecos Region of Southwestern Texas. At the first station, selected a few miles northeast of Carlsbad because the vegetation was rapidly changing from the familiar plains type to the very different Transpecosian flora, an odd-looking Composite was noticed, but collected only in unicate. It was not taken again until ten days later near Van Horn in Culberson County, Texas. Upon later examination it proved to be a species of *Haplopappus* which did not fit available descriptions. Its stiffly erect habit, numerous small leaves, very leafy branches terminated by single heads, and rays turning reddish upon drying tend to set it apart from the known species of that genus. In examining Hall's monograph[2] it became evident that it belongs in the *H. phyllocephalus* complex.

Dr. Johnston, who determined or verified duplicates of this collection, in kindly checking *Haplopappi* in the Gray Herbarium found another sheet of this species. It is Dr. Havard's number 88 taken at "Guadalupe Mts., W. Texas". Dr. Johnston writes, "Gray was troubled in identifying it (a good specimen) and finally wrote on the sheet, 'Hybrid of *A. rubiginosus* and *Aster gymnocephalus*'." I believe, however, that it is a distinct

[1] Funds to defray the expenses of this investigation were furnished by the Carnegie Institution through the kind offices of Dr. Forrest Shreve of the division of Desert Investigations of the Carnegie Institution. Tucson, Arizona,

[2] Hall, H. M., *The Genus Haplopappus. A Phylogenetic Study in the Compositae.* Carnegie Inst. of Washington, Pub. 398. 1928.

species, and am naming it in honor of its first collector, Dr. Havard.

HAPLOPAPPUS **Havardii,** sp. nov. Planta erecta rigida foliosa glandulosa, annua vel biennis. *H. annuo* affinis, a quo differt glandulis confertioribus, foliis numerosis minoribus obtusis breviter dentatis, capitulis minoribus ramulos conspicue foliosos terminantibus.[1]

Plant 2 to 4 dm. high, stiffly erect, annual or biennial from a short taproot. Stem solitary, branched above, pubescent with capitate glands. Leaves numerous, oblanceolate to oblong, principal cauline leaves oblanceolate to spatulate, 2 to 3.5 cm. long and 2 to 4 mm. wide, reduced upward toward the heads. All the leaves rather regularly but not deeply toothed, the rameal leaves with narrow salient teeth, the principal cauline leaves with more broadly triangular ones, most of the teeth not bristle-tipped, although the larger ones may have a few teeth with a short mucro; leaves capitate-glandular on both sides and on the margins. Heads about 1 cm. long, turbinate, solitary on the ends of leafy branches, subtended by one or two entire much-reduced leaves. Phyllaries linear, glandular, stiff, having a middle strip of green expanding toward the tip, or the longer inner ones having the strip of green only on the upper half. Ray-florets 8 to 10 mm. long and about 1 mm. wide in the expanded upper part, pistillate, but non-fertile, yellow, some of them turning reddish on drying. Disc-corollas 5 to 6 mm. long, yellow. The narrowly triangular, acute, pubescent stylar appendages from 2/3 the length of the stigmatic lines to almost equalling them; style-branches below the sweeping-hairs somewhat granular-glanduliferous, especially on the backs. Achenes about 2.5 mm. long, spindle-shaped, quadrangular at the top, sericeous-pubescent, obscurely nerved: pappus minutely barbellate. Receptacle alveolate, the alveolae scaly around the margins.

The three known collections of this species came from east of the Guadalupe Mountains in New Mexico, from the "Guadalupe Mts., west Texas", and from south of these mountains in southern Culberson County. The first is the author's number 3707 collected in sand on rolling plains in a *Mimosa-Gutierrezia* assn. along the Quahada Ridge, 12 miles northwest of Carlsbad, Eddy County, New Mexico; unicate in the Gray Herbarium with a fragment in the author's private herbarium. The second is Dr. Havard's number 88. The third is the author's number 4153 taken in rocky, white (perhaps gypseous) soil in an association

[1] For aid in preparing the Latin diagnosis I am indebted to Dr. I. M. Johnston.

of *Larrea*, *Flourensia*, and *Gutierrezia*, 9 miles east of Van Horn, Culberson County, Texas. This number (my 4153) in the Gray Herbarium is selected as the TYPE. Isotypes are in the herbaria of the Desert Laboratory of the Carnegie Institution, the Missouri Botanical Garden, the New York Botanical Garden, and in the author's private herbarium. Not all the isotypes have well developed lateral branches.

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MINOR TRANSFERS AND FORMS IN CIRSIUM.—In studying *Cirsium* the following transfers have been found necessary:

CIRSIUM HORRIDULUM Michx., forma **Elliottii** (Torr. & Gray), stat. nov. Var. *Elliottii* Torr. & Gray, Fl. N. Am. ii. 460 (1843). *Cnicus horridulus* Ell. Sk. ii. 272 (1822), not *Cirsium horridulum* Michx. (1803).

Cirsium horridulum, described by Michaux from "pascuis ruderatisque Carolinae", is assumed to be the wide-ranging plant, from Texas to Florida, northward to southern Maine, with the large foliaceous bracts equaling or overtopping the true involucre, the phyllaries eciliate, the corollas creamy to yellowish, the principal cauline leaves with broad and more or less quadrate lobes. This has always been taken as *C. horridulum* but earlier authors, Torrey & Gray and others, did not recognize the recently described southern plants, *C. Smallii* Britton, based on *Carduus pinetorum* Small (1913), not *Cirsium pinetorum* Greenm. (1905), and *C. vittatum* (Small) Small (1913), which started as *Carduus vittatus* Small (1905). *C. Smallii* has smaller heads than *C. horridulum*, with the foliaceous bracts relatively short, the phyllaries erose-ciliate and the deeply pinnatifid leaves with more lance-attenuate lobes. *C. vittatum* is similar to it but with merely undulate-toothed leaves and the phyllaries less definitely ciliate. Whether the latter is a distinct species or an intermediate between *C. horridulum* and *C. Smallii* is yet to be determined. All three occur in the Carolinas, as does the purple-flowered plant described by Elliott. Until Michaux's type of *C. horridulum* can be restudied I am holding it in the sense defined by Small.

C. MUTICUM Michx., forma **subpinnatifidum** (Britton), stat. nov. *Carduus muticus*, var. *subpinnatifidus* Britton in Britton & Brown, Ill. Fl. iii. 489 (1898). *Cirsium muticum*, var. *subpin-*